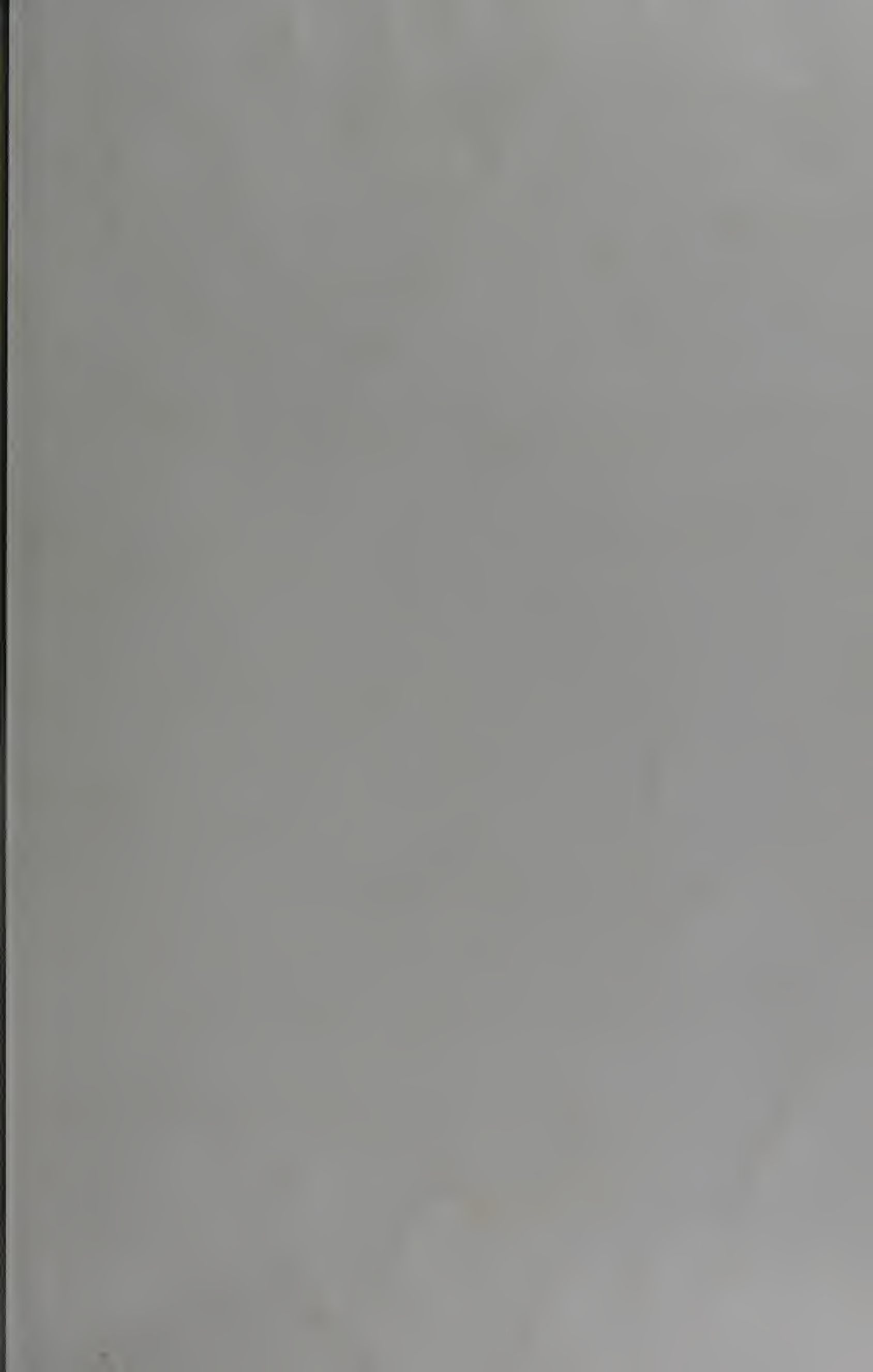




THE PHILOSOPHICAL SOCIETY OF GLASGOW.

* P130 - 1885

ADDRESS TO THE ARCHITECTURAL SECTION

BY
JAMES SELLARS, I.A.,
President of the Section.

[Read 17th November, 1884.]

SUBJECTS:—*The Dwellings of the Poor. The Provisions of the Glasgow Police Act, the Proposed Glasgow Police Bill, and the Burgh Police and Health (Scotland) Bill, in regard to Exits from Public Buildings, Drainage of Dwelling-houses, Widths of Streets, Heights of Buildings, and Free Spaces in Towns; Building Regulations and their Administration, &c.*

GLASGOW :
PRINTED BY ROBERT ANDERSON, 22 ANN STREET.

1885.

Address to the Architectural Section. By JAMES SELLARS, I.A.,
President of the Section.

[Read 17th November, 1884.]

GENTLEMEN,

When I had the pleasure of addressing you from this chair last year, one of the questions which interests us specially was attracting a great deal of public attention. The daily press contained harrowing accounts of the circumstances under which the poorest class manage to exist, that is, so far as their habitations are concerned. All grades of Society, from the highest to the lowest, were discussing the subject, and, as you know, the result of the agitation was the appointment of a Royal Commission to enquire into the condition of the dwellings of the poor. The Commission has been at work for months past, but up to this date no report has been issued. I trust their deliberations will have a practical result. The subject is one which cannot be shelved, and yet it is surrounded with difficulties on all sides. The very people who have most need of better houses are, generally speaking, the class who can least afford to pay for them, and who, from their personal habits, even if they could afford to pay for them, would soon make any house they occupied foul and unwholesome. Indeed, when we consider the poverty-stricken condition of the very lowest stratum of society, and their physical and moral depravity, it seems impossible to provide better and cleaner houses at a rent which they can afford to pay, and useless to provide them at any rent, until they are better and cleaner themselves. The model houses which have been erected in London, and elsewhere, are neither suitable for, nor indeed intended for, the very poor. The rents are necessarily beyond their means, and it would be precisely the same in Glasgow, or any large city where ground is valuable.

Is it coming to a time when state or municipal aid will have to be given to enable the kind of houses required to be built? houses for the residuum of society. I think it may come to that.

State or municipal aid to build the houses accompanied by supervision over the habits of the occupants. The foul hovels in which many of this class live are a public nuisance, and should be dealt with accordingly. We do not permit a manufacturer to carry on his work in a town, if it is hurtful to the health of the inhabitants. The factory would be dealt with as a public nuisance. Why, then, should houses saturated with dirt and filth, the inhabitants of which must be in no better condition than their houses, not be dealt with as a public nuisance too, and removed, the owner receiving reasonable compensation for any loss which it could be shown he had sustained? The unhealthy results of the objectionable factory, even if it were in the heart of the city, would be mainly confined to its own locality; but the foul dwelling has many channels through which its disease-producing power may be transmitted. It may come to you in the neatly-tied parcel from your tailor, your fashionably-cut coat having been sewed together in a fever den. Your washerwomen may come from some such place, to handle your linen, and rub shoulders with domestics inside your own house. The message boys who bring your fresh milk and hot rolls in the morning, may have emerged from some foul haunt an hour before. You cannot avoid coming in contact with the inhabitants of these places, in some way or another, every day of your lives.

Therefore it may be that to buy up and sweep off the face of the earth all erections of the kind I am referring to, and replace them by healthy houses, in which the inhabitants, if they wished to be clean, might be so, would be a profitable investment for the tax-payers, or at least it would be well-spent money.

If they did not wish to be clean, but chose to make public nuisances of themselves, so to speak, then why not compel them to be clean—if that is possible? I do not see any reason, except the financial one, why large groups of buildings, which I will call barracks, for want of a better name, should not be erected in certain districts, in which the houses would be built of the most indestructible materials, for that is essential, and arranged on the best sanitary principles, with suitable baths and wash-houses attached to each group, and which would be under constant supervision and inspection, in order to compel attention to sanitary rules.

This would come very near what has hitherto been considered an impossibility—viz., compelling people to be clean by Act of

Parliament, and it is not unlikely to be considered revolutionary—an outrage on the rights and privileges of a free people. But virulent diseases require strong remedial measures, and, after all, it would only differ in degree from what our Authorities do at present. They restrict, and very properly restrict, the number of persons who may occupy the rooms in small houses, and in a variety of ways regulate and inspect the arrangements of dwelling-houses and their adjuncts, and the idea which I have ventured to bring before you is only carrying the principle already acted upon a little further.

It would mean the bringing together of all houses of this class, and that is not free from objection in some views; on the other hand it would make regular inspection—not greatly more stringent than it is at present, and certainly not more so than the necessities of the case demand—more easy of accomplishment. This, or some other more practical scheme, it may be, will have to be adopted if the great social problem is to be solved.

There is no kind of reform more urgently called for than reform in the character of the dwellings of the poor. Social reformers of all types—temperance, and even evangelistic workers—might well, in the best interests of their special missions, join in this reform, and help its accomplishment in the first place. With cleanly habits and home comfort, and the improvement, moral, mental, and physical, which would be sure to follow, the class whose wants we are considering would be in a better frame of mind to receive religious instruction, and have less reason to frequent the public house, their present refuge from home discomfort and misery.

As regards the financial aspect of the question, I have already indicated that I do not think houses of the kind required could be built to pay, in Glasgow, and some money sacrifice would have to be made in the first instance; but is it unreasonable to hope that in the improved health of the whole community, for I claim that it would mean that, and the reduced taxation for the repression of crime which might be expected to follow the rooting-out of the foul haunts of the lowest class, there would be a return for the capital invested.

Turning now to other questions of interest to us here, questions, however, more local in character than the one just referred to. I will first ask your attention to the subjects recently brought prominently before the public by Lord Dean of Guild M'Ewen,

viz., the condition of house drainage in the city, and the question of exits from public buildings. His Lordship pointed out that many of our public buildings are in a very unsatisfactory condition in respect of exits, and his opinion has only too soon received a fearful verification in the appalling catastrophe at the Star Theatre two weeks ago.

I suppose that such calamities would be possible, and even likely, in any building, however well arranged, if filled with a highly-excited and half-maddened crowd—each individual unreasoning, and caring only for his or her personal safety; but it is imperative that everything which experience and skill can suggest should be done to reduce the chances of such accidents to a minimum, and we may be assured that this accident will give an impetus, if it was needed, to the action of the Committee of the Town Council appointed to deal with the matter.

In considering the powers of the authorities in connection with these and other subjects to which I may refer to-night, I will briefly consider the powers (that is, as I interpret or understand them) vested in the authorities under the present Police Act, those sought to be obtained by the proposed new Police Bill, and those provided in the Burgh Police and Health (Scotland) Bill introduced to Parliament during last session. It was not proceeded with; but it is to be again introduced, the Lord Advocate tells us, when legislation resumes its normal condition, and as it was the means of preventing our new local Bill, which had been prepared under the able direction of ex-Provost Ure, being lodged in Parliament, it will be of some interest for us to see in what respects it differs from our own Bill—in what way it is better or worse.

The application of the Lord Advocate's Bill is not compulsory in burghs having local Acts as we have, or rather, I should say, parts II., IV., and VI. are not compulsory. Part IV., "Police administration," includes all the matters, however, with which we have any concern, such as building regulations, drainage, ventilation, laying out streets, &c. But while it is not compulsory for us to adopt part IV., it appears to me that the chances of our obtaining a special Act for Glasgow, after the passing of this Bill, would be greatly minimised. Edinburgh, Dundee, Greenock, and I think Aberdeen, have all got new Acts for themselves very recently, and no doubt it will be quite satisfactory to them to retain them, while the present Glasgow Act is 18 years old; and

the new Bill prepared by the authorities contained all the improvements which experience showed to be necessary, and was on the very threshold of success, I have no doubt, when the way was practically blocked by the General Police Bill.

In regard to this question of exits from public buildings, the powers at present possessed by the authorities appear to be very limited. There is a single clause providing that when plans of hotels, theatres, or other buildings intended for holding large numbers of persons pass the Dean of Guild Court, the doors and passages must be shown to be so arranged that they will admit of safe and easy and quick entrance and exit.

The proposed new Glasgow Bill contained a similar, indeed an identical clause. The General Police Bill contains a clause of similar import, but with this very important addition, that the means of entrance and exit shall be approved by the Commissioners from time to time as they may deem necessary; and further, existing buildings used, or proposed to be used, as places of public entertainment, or for holding large numbers of persons for any purpose whatever, shall be inspected, and, if found unsatisfactory, then they must be altered to the satisfaction of the Commissioners. These latter provisions are better than we have at present in Glasgow, or proposed to have, in respect that they provide, not only for the access and exits being sufficient and properly planned to begin with, but also for inspection and supervision after they are in use. Theatres in Glasgow have to be licensed year by year, and the means of exit, &c., are annually inspected, but that does not, I think, apply to music halls or other halls, although it is hardly less necessary in the one case than in the other. I do not think that even the clause in the General Police Bill goes far enough, however. There are certain things which can be ascertained and fixed, such as the proper width of doors, and that should certainly be done. Mr. Whyte, our able Assistant Master of Works, gives it as his opinion that every public building should have the doors of such width that there would be one foot of exit space for every seventy persons the building can accommodate. Further, the widths and kind of stairs, if any, should be fixed and described. The stairs to be of no less width than the doors, and having no square corners on the landings. The gradient of the stair might also be fixed at not steeper than, say 1 in 2, and that separate egress, direct to the street, should be provided for each floor or gallery in the building wherever possible, or at least, and this ought to be imperative, in

no case should it be possible for two streams of people to cross each others path in a stair or passage; and where a stair is used for several floors then it should be increased in width at each floor in proportion to the additional number of persons who used it from that point. Consideration should also be given to the position of the doors in a hall. If they can only be at one end of the hall, they should be wider than the same number of doors distributed over the hall.

In connection with stairs, I would suggest that if it is necessary, as I believe it is, to put gates or moveable barriers across them, and the same applies to passages, for the regulation of crowds entering a building, then it would be very desirable that there should be separate stairs for exit only, or a person appointed by the authorities to see that these gates or barriers were opened or removed immediately after the entertainment began; and it might be the duty of the same official or officials to see that all the exit doors were opened for use at the end of the entertainment, and so fastened during the entertainment as to be ready to open *outwards* under the slightest pressure.

So far as I know, the Glasgow Authorities have no power to interfere with internal alterations of buildings, except in the case of dwelling-houses after they are in use. Therefore, they may approve of plans of public buildings showing perfect arrangements of stairs and passages, and ample exits, but which stairs and passages are in practice so mismanaged and obstructed by gates or barriers not shown on the plan, and which exit doors are never open or openable when the crisis comes, that the best skill and experience they can bring to bear on the matter is futile, without the power to see that the wide passages are not reduced in width by barriers or gates, and that the exit doors provided by the plan and made in the building are used. Every exit door in any hall should be opened on all occasions when the hall is in use, no matter whether the occasion demands it or not, but simply to accustom the frequenters of the hall to the position of the doors, and to make sure that they are *always openable*, that their hinges and appliances are kept in working order, so that when the crisis comes, as it may come any day, they will not be found rusted or jammed up from disuse. I have no doubt all such matters will now get due attention from the authorities, and that recent experiences here and elsewhere will lead them to obtain the necessary legal powers, if they have not got them already, to

compel the owners of theatres or halls not only to provide satisfactory arrangement, to begin with, but to keep them in working order, and thus secure in the highest degree the safety of the public in all possible circumstances.

As regards the other, and certainly not less important question, dealt with by the Lord Dean of Guild—viz:—The drainage of dwelling houses—something has already been done, towards their general improvement, though not by Act of Parliament.

The drain-testing, carried on by the sanitary department, and the Glasgow Sanitary Protection Association (the operations of the former being of course confined within the Municipal Boundaries, and the work of the latter being within and without the city), revealed a condition of things which is nothing less than appalling. Out of hundreds of house-drainage systems examined, a very trifling proportion—less than 5 per cent., I think—were pronounced entirely satisfactory.

It does not of course follow that the other 95 per cent., assuming that to be the proportion, were necessarily dangerous to health, because the imperfection, in many cases, might be slight and unimportant, and the test applied is a very severe one, the smoke being driven through the pipe under considerable pressure. Yet I have no doubt that it is a fair statement to make, that at least 50 per cent. of all the houses examined were in a condition, as to drainage, prejudicial to health. Now, when you consider that, as far as the work of the Sanitary Association is concerned at least, the tests were applied to houses of the better class, generally erected under some kind of supervision, it is a fair conclusion to assume that the condition of thousands of the common blocks of tenements, very frequently erected without any kind of supervision, must be in a much worse condition.

It is not to be forgotten, of course, that many of the houses inspected were old houses, some of them erected before drain pipes were invented, for that is not so very long ago. Indeed, I am informed that some of the stately terraces in the West-end, commanding magnificent views of the valleys of the Clyde and the Kelvin, had only the old-fashioned built drains when they were first erected; and it must be within the knowledge of many present, as it is within my own very recent experience, to find that very unsatisfactory and antiquated form of drain still existing in otherwise excellent houses in first-rate localities. Any sort of test applied to drains of that kind, however well made at first, but left

to take care of themselves since the time they were constructed, could not have any other than an unsatisfactory result. In this connection, I may observe that the very best and most scientifically-arranged systems of drainage will not last for ever, under the most favourable conditions possible, and therefore they ought to be *periodically* tested.

In those days, 30 or 40 years ago, when built drains were common, and pipe drains were just beginning to be introduced, sanitation as a science was but little understood by the many. Get rid of the nastiness in any way was the principle acted on; get rid of it, cover it up, conceal the means of carrying it off, do anything, but don't let us see it. The ostrich burying its head in the sand, and thinking itself secure from danger, is not more absurd. Indeed, it is so far a parallel case. Bury the drains, no matter how; don't let me see my enemy, and there is no danger—fatal mistake both for the ostrich and the house-builder of the period. The parallel is not quite complete, however, in respect that while the ostrich suffers itself for its folly, other people suffer from the deadly results of the house-builder's folly.

No drains at all is better than that condition of things, and yet I do not know that it is altogether obsolete even in Glasgow, and certainly not in some of the smaller burghs and populous places, say some of the fashionable health resorts on the Clyde. A thatched hut on an Arran hill-side, with sanitary arrangements of the most primitive kind, or none at all, is better than the more pretentious villa at "Sea-view," where modern civilisation has demanded the introduction of sanitary appliances, but which, from the want of any kind of control over the builder, are nothing else than a malarrangement of pipes, contrived in the best way for breeding disease in the houses; and we know from recent experience, and from recent drain-testing, that many of our oldest, and some of our new West-end houses, are no better. Many of these houses, it is not too much to say, have masses of filth, the accumulation of years in some cases, under their carpeted floors, not less disgusting in its nature than the contents of the foulest midden in the more humble quarters of the town, and much more deadly, because it is unsuspected.

The vapours of the midden have some chance of being diluted by the free air, but the vapours from the foul accumulations under the dining-room floor are led directly into the houses in the purest undiluted impurity.

We will now see how far our authorities have power to prevent such a state of matters being continued, in the erection of new houses, and to what extent they can interfere with it in existing buildings. In the present Police Act there does not appear to be any clause, apart from public sewers, dealing with house drainage—that is, while it provides that the connection with the main drain in the street is to be properly made, the control seems to end there.

In the proposed new Bill, however, very ample provisions are made, and the same may be said of the new Burgh Police and Health (Scotland) Bill.

In the new Glasgow Bill, Clause 372 provides (I merely give the gist of the clauses, to quote them in full would occupy too much time) that all drains, soil pipes, and cesspools, shall be sufficiently constructed and ventilated; that the drains shall be of glazed stoneware pipes, jointed with cement; that drains passing under a building shall be laid on a bed of concrete; that the whole drainage work shall be constructed at such time, and in such position, and of such size and form, as may be approved by the Master of Works. Further, that all drains, cesspools, and soil pipes, in every house shall be ventilated by special pipes or shafts, and all inlets to drains shall be trapped—the whole work to be to the satisfaction of the Master of Works.

Clause 373 of the Bill provides that the surface soil under all dwelling-houses, to the depth of the foundations, within the walls, will be dug out and removed, and where the surface soil is artificial, that is, from the filling up of old quarries, or any natural hollow or otherwise, with rubbish, then the whole surface underneath, and within the area of the walls, shall be covered with a layer of concrete or asphalte, not less than 6 in. thick.

These are very satisfactory clauses, and their application would go far to prevent, if it did not at once put an end to, the evils complained of in *new* buildings.

As regards existing buildings, it is provided in clause 272 of the Bill that the Sanitary Inspector, when he has reasonable grounds for believing that the drains connected with any house are defective, may, after giving notice, apply the smoke or other test, and the proprietor will be liable in a penalty if he refuses to allow the test to be made.

The clause does not provide, however, for what is to be done in the event of the drains being found unsatisfactory, and to that extent it seems to me to be incomplete.

The Lord Advocate's Bill provides clauses, as to drainage of new buildings, similiar in their import to those in the new Glasgow Bill, but of course they are necessarily more adapted for general application ; and it has a corresponding clause in regard to building on sites which have been made up. If the filling-up has been with material impregnated with fœcal matter, and in that case only I infer, houses are not to be built unless the Sanitary Inspector or Surveyor is satisfied that proper precautions have been taken.

As regards existing systems of drainage, they are to be kept in good order by the owners. All branch drains, as well within as without the building, are to be under the survey or control of the Commissioners, and shall be reconstructed or altered and kept in proper order at the cost of the owner.

On the whole, I think that the clauses in the new Glasgow Bill, in regard to drainage of new houses, are better *for Glasgow* than those in the Burgh Police and Health (Scotland) Bill, and especially so, that they are more definite in describing the manner in which drains are to be laid and ventilated, and less is left to the opinion of the Commissioners or Dean of Guild Court for the time being. For instance, in the latter Bill drains are to be ventilated only "if required by the Commissioners." In respect, however, of supervision and control over drainage systems, after they are in use, the latter Bill seems to meet the necessities of the case better, and would confer the powers which I think are urgently required.

The clauses in the proposed Glasgow Bill providing for the drains being laid on a solid bed, and for covering over all made-up ground with concrete, whether the infilling is in itself objectionable or not, are specially valuable. An engine or other piece of machinery might be the most perfect specimen of workmanship, a wonder of mechanical skill, its every joint and bearing fitted with mathematical precision, but if that machine is laid on a foundation or seat which from some circumstance becomes uneven, the perfected and completed work is changed into a useless mass of material. It is precisely the same with a system of drainage. It too may be perfectly designed and made, its every length of pipe laid with a proper gradient, and every junction air and water tight ; but in Glasgow where there is so much made-up ground, and ground naturally soft, and where the slightest "sit" or settlement of the building may throw the whole drainage arrangements out of gear, so to speak, it is of the utmost consequence, that the foundation or bed on which the

pipes lie should remain firm and secure. Further, you can see that the machine has gone wrong, it stops work, and must be immediately repaired. If the drains go wrong, they stop work too, that is, they stop their proper work, they become useless for the purpose for which they were put there. But you do not know that fact; while they have begun another kind of work, a deadly work of which you are quite unconscious, although you may suffer from its effects.

There are one or two other points in these Bills to which I will briefly allude—first, the manner in which the much-vexed question in Glasgow, viz., heights of buildings in relation to widths of streets, and free spaces behind buildings is treated.

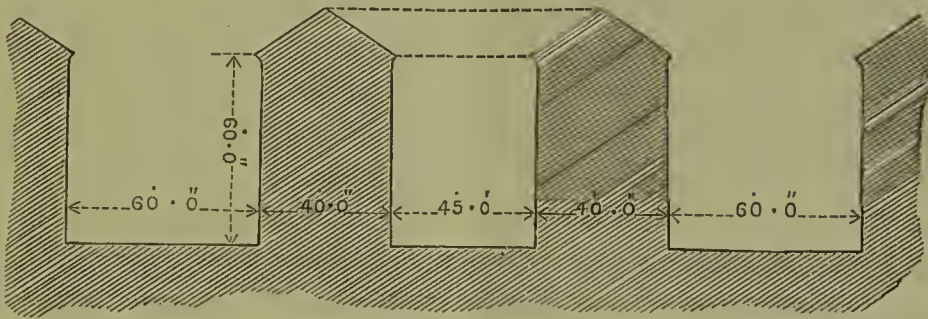


DIAGRAM No. 1.

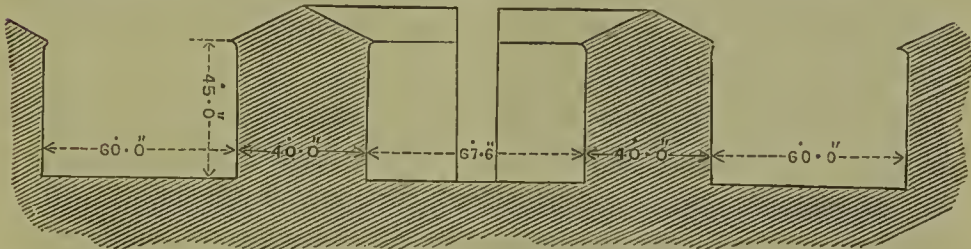


DIAGRAM No. 2.

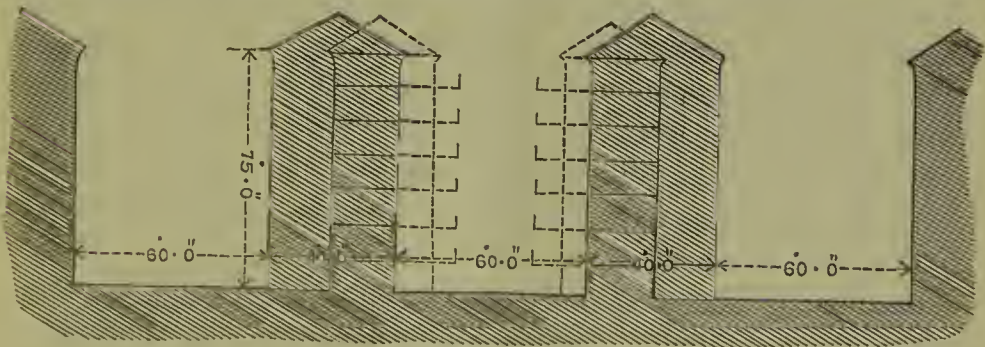


DIAGRAM No. 3.

In order to illustrate more readily the effect of the various clauses, I have prepared the above diagrams. Diagram No. 1 shows what may be done under the present Police Act; diagram No. 2, under the proposed new Local Bill; and diagram No. 3,

under the Burgh Police and Health (Scotland) Bill. I have assumed in each case the ordinary width of a street and the average width of a tenement in Glasgow—60 feet for the street and 40 feet for the tenement—because I am considering the application of the rules in Glasgow. Diagram No. 1 shows the buildings 60 feet high, that is, equal to the width of the street, and the space behind or between the backs of the tenements, 45 feet; diagram No. 2 shows the buildings 45 feet high, that is, equal to three-fourths the width of the street, and the space behind or between the backs of the tenements is 67 feet 6 inches; Diagram No. 3 shows the buildings 75 feet high, that is, equal to one and a quarter times the width of the street, and the space behind or between the backs of the tenement, 60 feet.

You will observe that the arrangement of blocks of buildings known as hollow squares is impossible either under the provisions of the new Glasgow Bill, or the Burgh Police and Health (Scotland) Bill, the latter being the best in this respect, as the houses cannot be returned in the side streets, while in the new Glasgow Bill, as I read it, they may be returned, provided a lane 12 feet wide is left between the return blocks. The latter provision, however, may be desirable in a large town where ground is valuable, and, the free passage of air between the backs of the houses is probably sufficiently secured by the open lane.

The height to which buildings may be erected in a 60-foot street under the provisions of the Burgh Police and Health (Scotland) Bill appears to me to be greatly in excess of the height which would be desirable in Glasgow, or in any large town; and further, in my view, the principle on which the free space behind buildings is fixed in this Bill is altogether wrong. It is to have no relation to the *height* of the building. It is to be "equal at least to 3-4ths the *area* to be occupied by the intended building." I have assumed in all the diagrams that the buildings are 40 feet wide—and that is probably the maximum width of tenements of dwelling-houses of the ordinary class—so that diagram No. 3 shows the application of the provisions of this Bill under the most favourable conditions. Suppose the tenements were workmen's houses, planned on what is known as the gangway system; the building would probably not exceed 30 feet in width. They could still be as *high* in a 60 feet street, but the free space might then be reduced to 45 feet. The dotted lines on diagram No. 3 show the relative position of the buildings if they were only 30 feet wide.

Under the provisions of the present Glasgow Police Act and the new Glasgow Bill, the free space is regulated by the *height* of the building, no matter what its width may be, and that appears to me to be the right principal.

While I think the diagram No. 3 shows the application of the clauses in a very favourable view, everything depends on the width of the street. Suppose the street were only 36 feet wide, which is the minimum width under the Lord Advocate's Bill, that would give a building 45 feet high (too high in my view for the width of the street), but the buildings might occupy as much area as in the case illustrated by the diagram, and in that event the free space at the back would probably be sufficient. Nobody in Glasgow would think of making a street 36 feet wide, just as it is probable no one would erect a tenement 75 feet high, in the ordinary Glasgow street 60 feet wide ; but then, if I interpret the clauses of the Bill aright, they may do so, and that satisfies me that in this respect the proposed new Glasgow Bill would be the best for Glasgow.

It is right to keep in view that the Burgh Police and Health (Scotland) Bill is framed for application all over Scotland, and that while, in my opinion, this part of it is quite inapplicable to Glasgow, it is an excellent Bill for general purposes, for application to smaller boroughs where there is no temptation or need to erect buildings of extreme height, in order to recoup the builders for the price of the ground.

As regards buildings which may be erected in the courts adjoining dwelling-houses, the new Glasgow Bill provides that no building, except an ashpit, privy, washing-house, or coal cellar, shall be erected, and it is not to exceed 12 feet in height, including the roof. The new Burgh Bill contains similiar provisions as to the kind of buildings which may be erected, but in regard to the important question of the height of such buildings, their position, and dimensions, they are to be subject to the consent and approval of the Commissioners.

I am aware that, in approving of the provisions of the Glasgow Police Bill in regard to heights of buildings and free spaces, I am out of sympathy with many friends for whose opinion I have the very highest respect ; and I am also aware that it is the opinion of many well able to judge that buildings adapted for the dwellings of the very poor could not be erected in Glasgow cheap enough under the restrictions sought to be imposed. I concur in that opinion,

and in order to meet the difficulty the restrictions would have to be relaxed in certain districts and under certain conditions of planning and arrangement of the blocks of houses. Yet in a city crowded with public works of a kind not always agreeable, a city frequently enveloped in a smoke-laden atmosphere, wide streets, buildings of moderate height, with wide well ventilated free spaces behind them, are very desirable, and for general application in Glasgow, apart from special arrangements to suit the houses for the very poor, I do not think the provisions of the new local Police Bill are too exacting.

I now refer briefly to the building regulations which are to be found in the Police Acts, or, rather, the part of them relating to strengths of material used in buildings, for several matters already alluded to are included under the general head of building regulations.

I have a very broad and general objection to urge in regard to them, and it applies with equal force to the three documents we have been dealing with. I object to their being in a Police Act at all, as I think such matters require a whole Act to themselves—a Burgh Building Act. The need for a special Act, dealing with the construction and arrangement of buildings, was brought before our Local Authorities when they were engaged preparing the new Police Bill, by the Glasgow Institute of Architects, without success; and more recently the same body had an opportunity, by deputation, of bringing their views before the Lord Advocate in connection with the Burgh Police and Health (Scotland) Bill. As a result of that interview they prepared the draft of a Burghs Building Act, containing their views of the regulations as to buildings, &c., which might be applicable to all Scotland. It was prepared with great care and trouble, and although it has not yet been turned to practical account, I have no doubt it will, some day or another, form the basis of a Building Act for Scotland.

It is divided into four parts :—*First*, “With respect to Streets;” *Second*, “With respect to Buildings;” *Third*, “With respect to Drainage;” and *Fourth*, “Precautions during the construction and repair of Buildings.” It contains 57 clauses, 11 of which are in the second part, but some of these latter clauses are divided into numerous sub-sections, and the second part is much the most important part in the Bill. It is with that part only we have to do at present. With respect to streets and free spaces, and per-

haps drainage as well, I think I have already indicated that large towns may require special legislation to suit their wants, although regulations of that kind may well be made generally applicable to small burghs.

But there are certain rules as to strength of walls, their thickness in proportion to height, strength of roofs, joisting, beams, &c., and modes of construction in connection with fire protection, which can be laid down, and which are equally applicable in the largest and the smallest burghs. With regard to the strength and stability of buildings, the Glasgow Acts, both present and proposed, provide—Clause 371 of the new Bill, sub-section 1, “That the outer walls and the party walls, or separate side and end walls, and the joisting and principal timber and iron work, as shown on the plan, are of sufficient strength and stability.” The Burgh Police and Health (Scotland) Bill, schedule IV., sub-section 3—“The outer walls, and the party walls, or separate side walls, and the joisting and principal timber and iron work, shall be of sufficient strength and stability.”

These are excellent rules so far as they go, provided that the person or persons who are to be satisfied that the outer walls and other constructive details are of “sufficient strength and stability” are likely to be competent to express an opinion. In Glasgow, and in other large towns with a Dean of Guild Court constituted as we have it, and with able and experienced professional men to advise them, no objection can be taken; but in small burghs where the Lord Advocate’s Bill is to apply, and where such matters requiring technical knowledge and skill and experience are to be dealt with by a certain number of Commissioners—members of the Town Council—who have no one to advise but their surveyor, whose qualifications, so far as they are provided for in the Bill, I will refer to by-and-by, the case is quite different. For a general act applicable to all burghs there can be no question, I think, that everything in connection with the construction or strength and stability of buildings which can be clearly and definitely stated, should be so stated, and not left to the opinion of persons who may not, and need not necessarily, in order to occupy the position of judges, know anything whatever about the matter.

Now this is just what the draft bill I have referred to does. In it the thickness of stone and brick walls in proportion to their height is laid down in a table, and varied as the building is to be used for a dwelling-house, counting-house, warehouse, or public

building. In the same way the sizes of joisting in proportion to the length of bearing, the strength of roofs, the load-carrying power of floors of all kinds, dwelling-houses, public halls, schools, churches, workshops, and stores, are minutely described, and there are many other technical matters provided for which I will not trouble you with in the meantime.

Such details as these definitely fixed would form a very useful standard of dimensions—a table of reference—a guarantee that the necessary strength of materials would be used, and that every building, no matter in what burgh it was erected, would be of sufficient strength and stability; for then, and perhaps most important of all, the phrase “strength and stability” would have a *definite* meaning, and only *one* meaning, and the *same* meaning, in every burgh, large or small.

Turning now for a moment to the clauses bearing on protection from fire, we find those in the new Glasgow Police Bill of the most meagre description, while in the present Act they do not exist at all. I mean clauses apart from those providing for fire extinction. Those which are in the new Police Act are as follows:—“That the joists under every hearth shall be bridled;” “that every fireplace shall have jambs projecting at least to the flush of the plaster;” and “that no joists shall be inserted into a wall nearer to the chimney than 12 inches.”

These clauses are certainly in the right direction; but they are very far from being sufficient to meet the necessities of a large town. Glasgow appears to have a very bad character as compared with other large towns for the number of fires which occur in it directly traceable or due to defective building construction. A very interesting paper was read here in 1881 by Mr. John Dansken in which some figures were given bearing on this point, and which I will take the liberty of quoting. It was found on comparison that, taking all the fires occurring in London, Liverpool, and Glasgow, and averaging over a series of years, that in London $6\frac{1}{2}$ per cent., Liverpool 11 per cent., and in Glasgow 26 per cent., were due to defective building construction. Mr. Dansken attributes the immense difference in favour of London and Liverpool, and I agree with him most cordially, to the superiority of the legal enactments for the protection of buildings from fire in force in these cities as compared with an almost total lack of them in Glasgow.

London had the “Metropolitan Building Act,” and Liverpool

had special Acts for the protection of buildings from fire during these years, while Glasgow had no such advantages, and it is in the same position at this moment. There is nothing to prevent the same malconstruction which caused more than one-fourth of all the fires in Glasgow going on now, while in the business quarters at least, owing to the buildings being more and more closely packed together, as the ground becomes more and more valuable year by year, there is more need than ever for fire protection legislation.

I had intended to indicate such regulations as I think might well be enforced; but I fear I have already exceeded reasonable bounds in the length of time I am occupying, and I will only allude to one regulation—a very important one, however,—which is in the Lord Advocate's Bill, and also in the draft Burghs Building Act which I have brought before you.

That is a clause which specifies that all external walls and walls dividing separate houses are to be of incombustible material, and all party walls are to be carried through and above the roof, so as to form a parapet at least 12 inches high.

That rule would ensure the complete isolation of adjoining buildings, and should be made imperative in Glasgow, in some way or another, without any delay. It would ensure that, unless the circumstances were exceptional, a fire would be confined to the building in which it originated.

The numerous descriptive details connected with building construction such as I have referred to, and the much required fire-protection clauses—all of which are in my view absolutely necessary—would appear to me to be out of place in a Police Act, and I am satisfied they ought to be in a separate Act, applicable to all Scotland, and framed on the lines of the draft Burghs Building Act, prepared by the Glasgow Institute of Architects.

There is yet another matter in connection with these acts which I will refer to in conclusion. The provisions for administering the regulations for the construction of buildings, drainage, ventilation of buildings—for there is ample provision for that too in the Lord Advocate's Bill, although I have found it impossible to deal with it in detail—and all other matters included under the general head "Police Administration." All through the Burgh Police and Health (Scotland) Bill, that is the parts we have been considering, such phrases as these occur, "To the satis-

faction of the Commissioners," such and such "may" be done at the discretion of the Commissioners. Indeed, some of the best provisions of the Bill may be set aside on the authority of the Commissioners, which in special circumstances they may grant.

In the Glasgow Police Act the same kind of things are generally "to be approved by the Dean of Guild," or "to the satisfaction of the Master of Works;" but in large towns like Glasgow, that can afford to have skilled and experienced advisers, the objections to this indefiniteness, this leaving of matters, which might well be specified, to the individual opinion of Commissioners, or Dean of Guild Courts, or officials for the time being, are minimised.

But what are we to say of small Burghs, containing 2,000 inhabitants and upwards, with no local Act, and who must take this one—and who would be greatly the better for it too—if they could afford to have it properly administered. Consider the kind of questions which have to be decided by the Commissioners. I need not go over them again. Just keep in view that they are all technical, and requiring skill and trained judgment for their intelligent consideration; and consider, too, who are likely to be the Commissioners in these small Burghs. Douce, decent men, long-headed and skilled in their own business, but who, in the nature of things, are most unlikely to be able to cope with the details of such matters. Who then is to advise them? The local Surveyor or the Sanitary Inspector? Well, what kind of persons or person are they or he to be? for the same individual may hold both offices.

The Bill, as brought in by the Lord Advocate, provided that "The Commissioners shall from time to time appoint a person duly qualified to act as local surveyor of the paving and drainage and other works authorised under the provisions of the Act, who may, if the Commissioners see fit, be the Head Constable, or other police constable." It seems incredible, but it is as I say. The Bill, as amended in Committee, did not suggest the village policeman for the dual office of Surveyor and Sanitary Inspector, but it makes no provision for him being a professional man, or properly qualified. He is to be "duly qualified" in the opinion of the Commissioners. We have seen the kind of person the framers of the Bill considered might be "duly qualified," but we do not know as yet who the Commissioners might appoint. We do know, however, something of the position of the sanitary inspectors, for

these officials exist already ; and as the office of Surveyor may be held by the same person, we can come to some conclusion on the matter. I have beside me a paper read by Dr. Simpson, the Medical Officer of Health for Aberdeen, at the last meeting of the Sanitary Association of Scotland held at Perth, in which he referred to the status of Sanitary Inspectors in Scotland having resulted in certain districts becoming more unhealthy than they previously were, notwithstanding the administration of the Public Health Act. He had corresponded with these officials in various parts of the country—small burghs they must have been—and found that their salary per annum varied from one pound to five pounds—the latter salary being paid to the Sanitary Inspector of the place he was speaking in, the city of Perth, with 30,000 inhabitants. In one district in the North of Scotland, where typhoid fever and diphtheria are always prevalent, the Sanitary Inspector is a shoemaker at a salary of £3 per annum. Dr. Simpson goes on to say that, “ Besides inadequacy of salary, and the consequent election of men without any special knowledge, the Sanitary Inspector is usually dependent on the good will of the local board or their friends ; to raise his voice, therefore, might injure him in his other business, in comparison with which the Sanitary Inspectorship is a small matter.”

The Draft Burghs Building Act, after providing for the continuance of Dean of Guild Courts, with a professional Assessor as we have in Glasgow, provides further—“ That the Town Councils or Burgh Commissioners of two or more adjacent burghs may employ, for the purposes of the Act, one Assessor or Surveyor jointly, but it shall not be competent to appoint any person as Assessor or District Surveyor who has not passed the examination prescribed for District Surveyors under the Metropolitan Building Act, or otherwise who is not at the time a member of the Royal Society of British Architects, or of the Glasgow Institute of Architects,” these being at present the only chartered Incorporations of Architects in the country.

That is only asking, in regard to the surveyor, what is given in the Burgh Police and Health (Scotland) Bill in regard to the medical officer of health, who must be “ a legally qualified practitioner.” Well, all we want is a legally qualified practitioner. The duties are quite as important in the one case as in the other. The village policeman or the village shoemaker is quite as competent to be the medical officer of health as he is to be the

surveyor, and advise as to the construction of buildings, strength of materials, drainage, ventilation, &c.

As a general conclusion, I am of opinion that Glasgow, with its well organised and capable Sanitary Department and Office of Works, would be better under the provisions of its proposed new Police Act than it would be under the Burgh Police and Health (Scotland) Bill, and that the latter, admirable as it is in most respects, fails in not providing for the proper administration of its provisions as to building regulations and drainage of houses, &c.

This opinion, however, is under the reservation that these matters would be better and more appropriately dealt with in a separate Building Act, which could, of course, be worked in Glasgow by the existing machinery.

I have to thank you, gentlemen, for your patient hearing of what, I fear, you must have found a somewhat tiresome address. The matters I have dealt with are all of them attracting public attention to an extent quite unthought of only a few years ago. We, the members of this Section, are all more or less professionally interested in them, and in any movement in the direction of improving the construction or sanitary arrangements of buildings our place is, or ought to be, in the front rank. It is not only our duty, but it is our interest; the more the public show intelligent knowledge of these things the more they will appreciate good work when they get it. The honest and skilled man does not need an Act of Parliament to compel him to make good work, so that he should welcome every new enactment which will ensure that only good work will be allowed to be done. Without that he may suffer in reputation and in pocket by having to compete with ignorant or unscrupulous practitioners. There has been a time, shall I say that it is not past even now, when the honest builder might starve, while the dishonest builder would flourish, simply because the public do not know anything about what they are paying for. Buildings are just like other commodities, and if the very cheapest article in the market is most in demand—if the very lowest offers which can be obtained are eagerly sought after, then the natural consequence is, that the quality of the article must suffer—cheap and hasty applies with fullest force to a cheap house. There is too much sand in the lime used in a cheap house, just as there is too much of the same commodity in cheap sugar. The open joints and cracks in the cheap house are filled up and smoothed over just as some kinds of cloth are weighted and glazed

with paste to impose upon the bargain hunter ; every department of the work which does not meet the eye is scamped in the cheap house just as it is in any article made for the cheapest market. There was a time in Glasgow when the walls of west-end drawing-rooms were made hideous by having wretched daubs, misnamed pictures, hung on them, bought because they were cheap, or that the purchaser did not know the difference between the monstrosities produced in some picture factory on the Continent or nearer home, and a Raphael or a Turner. There was a time, not very long ago, when a concert in Glasgow would not draw unless the programme included a good proportion of the comic and vulgar element. Now, the best artistic work finds a host of patrons who have knowledge and appreciation, and nothing short of classic music will satisfy an ever-increasing number of our concert goers.

May we not hope that an increased knowledge of our work on the part of the public will have a like effect on it. If they demand good and substantial and skilled work, and are willing to pay for it, they will be sure to get it.

